March 25, 2019

Eric Smith
NVA Yellowstone Valley Veterinary Management, LLC.
29229 Canwood St. #100
Attn: Business Licensing
Agoura Hills, CA 91301

Dear Mr. Smith:

Montana Air Quality Permit #4195-01 is deemed final as of March 22, 2019, by the Department of Environmental Quality (Department). This permit is for an Incinerator. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

John P. Proulx
Air Quality Specialist
Air Quality Bureau
(406) 444-5391

JM:JPP
Enclosure

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #4195-01

NVA Yellowstone Valley Veterinary Management, LLC.
29229 Canwood St. #100
Agoura Hills, CA 91301

March 22, 2019

MONTANA AIR QUALITY PERMIT

Issued To: NVA Yellowstone Valley Veterinary Management, LLC.
29229 Canwood St. #100
Attn: Business Licensing
Agoura Hills, CA 91301

Montana Air Quality Permit: #4195-01
Administrative Amendment (AA)
Request Received: 1/18/2019
Department's Decision on AA: 3/6/2019
Permit Final: 3/22/2019

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to NVA Yellowstone Valley Veterinary Management, LLC. (YVV), pursuant to Sections 75-2-204, 211, and 215 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

The YVV facility is located at 30 Moore Lane, Billings, Montana. The legal description of the site is Section 5, Township 1 South, Range 26 East, in Yellowstone County, Montana.

B. Current Permit Action

On January 18, 2019, the Department received a Notice of Intent to Transfer Ownership of MAQP #4195 from Yellowstone Valley Veterinary, Inc. to NVA Yellowstone Valley Veterinary Management, LLC. YVV also requested that the physical address be updated to reflect the correct physical address and to have Unit #1 removed from the permit.

Section II: Conditions and Limitations

A. Operational Requirements

1. YVV shall not incinerate/cremate any material other than animal remains and any corresponding animal remains container, unless otherwise approved by the Department of Environmental Quality (Department). YVV shall provide written notice to the Department and obtain approval from the Department if material other than what would normally be termed animal remains and/or animal remains container is to be incinerated (ARM 17.8.749).

2. Unit #2 shall be equipped with auxiliary fuel burners. The auxiliary fuel burners shall be used to preheat the secondary chamber of the crematoriums to the minimum required operating temperature prior to igniting the primary chamber burner. The operating temperatures shall be maintained during operation and for one-half hour after waste feed has stopped.

The secondary chamber operating temperature of the crematoriums shall be maintained above 1500°F for any one-hour averaging period with no single reading less than 1400°F (ARM 17.8.752).

3. YVV shall operate Unit #2 as specified in the application for Montana Air Quality Permit #4195-01. Further, YVV shall develop crematorium operation procedures, print those procedures in a crematorium operation procedures manual and require all personnel who operate the crematorium to familiarize themselves with the operating procedures. A copy of this manual shall be supplied to the Department (ARM 17.8.752).

B. Emission Limitations

YVV shall not cause or authorize to be discharged into the atmosphere from Unit #2:

1. Visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752); and

2. Any particulate emissions in excess of 0.10 grams per dry standard cubic foot (gr/dscf), corrected to 12% carbon Dioxide (CO_2) (ARM 17.8.752).

C. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

2. The Department may require testing (ARM 17.8.105).

D. Monitoring Requirements

YVV shall install, calibrate, maintain, and operate continuous monitoring and recording equipment, or use another measurement/recording system as may be approved by the Department, on Unit #2 to measure the secondary chamber exit gas temperature. YVV shall also record the daily quantity of material incinerated/cremated and the daily hours of operation of the crematorium (ARM 17.8.749).

E. Operation Reporting Requirements

1. YVV shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department (ARM 17.8.505).

2. YVV shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by YVV as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

Section III: General Conditions

A. Inspection – YVV shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if YVV fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving YVV of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by YVV may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
NVA Yellowstone Valley Veterinary Management, LLC
MAQP #4195-01

I. Introduction/Process Description

NVA Yellowstone Valley Veterinary Management, LLC. (YVV) owns and operates an animal crematorium. The YVV facility is located at 50 Moore Lane, Billings, Montana. The legal description of the site is Section 5, Township 1 South, Range 26 East, in Yellowstone County, Montana.

A. Permitted Equipment

YVV operates a natural gas-fired 2004 model Power-Pak JR (1E43-PPJ) animal crematory (Unit #2) with a maximum incineration capacity of 75 pounds per hour (lb/hr) and associated equipment.

B. Source Description

Unit #2 incorporates primary and secondary combustion chambers and is fueled by natural gas. The unit will be used to incinerate animal remains and/or animal remains containers.

C. Permit History

On February 2, 2008, the Department received an application from Yellowstone Valley Veterinary Inc. for a Montana Air Quality Permit. The application was for a natural gas-fired animal crematory and associated equipment. The MAQP was assigned number 4195-00. **MAQP #4195-00** was issued on May 8, 2008.

D. Current Permit Action

On January 18, 2019, the Department received a Notice of Intent to Transfer Ownership of MAQP #4195 from Yellowstone Valley Veterinary, Inc. to NVA Yellowstone Valley Veterinary Management, LLC. YVV also requested that the physical address be updated to reflect the correct physical address and to have Unit #1 removed from the permit. **MAQP #4195-01** replaces MAQP #4195-00.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., MCA.

   YVV shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}
11. ARM 17.8.230 Fluoride in Forage

YVV must maintain compliance with the applicable ambient air quality standards. As part of the risk assessment required for this project, the Department conducted SCREENVIEW modeling, an EPA-approved air dispersion model. This analysis demonstrated that the proposed project would pose no more than a negligible risk to human health from hazardous air pollutant (HAP) emissions, as required for permit issuance.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

   ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter (PM).

2. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

3. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

4. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Also, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator, emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes. This rule does not apply to Unit #2 because YVV has applied for and received an air quality permit in accordance with ARM 17.8.770 and MCA 75-2-215 for this unit. However, because Unit #1 is an existing incinerator the unit is subject to the requirements of this rule as generally applicable requirements.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year (TPY) of any pollutant. YVV does not have a PTE greater than 25 tons per year of any pollutant; however, in accordance with the MCA 75-2-215, an air quality permit must be obtained prior to the construction and operation of any incinerator, regardless of potential incinerator emissions. Because YVV must obtain an air quality permit, all normally applicable requirements apply in this case.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative amendment. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving YVV of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

15. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's PTE is below 250 TPY of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

a. PTE > 100 tons/year of any pollutant;

b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #4195-01 for YVV, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for any pollutant.

b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

c. This source is not located in a serious PM_{10} nonattainment area.

d. This facility is not subject to any current NSPS.

e. This facility is not subject to any current NESHAP.

f. This source is not a Title IV affected source, or a solid waste combustion unit.

g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that YVV is a minor source of emissions as defined under Title V.

H. MCA 75-2-103, Definitions provides, in part, as follows:

1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes, including, but not limited to...air pollution control facilities.

I. MCA 75-2-215, Solid or hazardous waste incineration – additional permit requirements:

1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators; therefore, YVV must obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants from the incineration of solid waste. The Department determined that the information submitted in this application is sufficient to fulfill this requirement.

3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. The Department completed a health risk assessment based on an emissions inventory and ambient air quality modeling for this proposal. Based on the results of the emission inventory, modeling, and the health risk assessment, the Department determined that YVV's proposal complies with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that the proposed incinerator (Unit #2) constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source of emissions. YVV shall install on the new or modified source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was not required for the current permit action because the current permit action is considered an administrative amendment.

IV. Emission Inventory

An emission inventory was completed for YVV. This emission inventory for criteria pollutants for Unit #1 and #2 was based on emission factors from the AIRS FACILITY SUBSYSTEM SOURCE CLASSIFICATION CODES (AFSSCC) manual dated March 1990. The application indicated that the fuel used would be natural gas; therefore, the Department also used emission factors from AP-42, Section 1.4, Natural Gas Combustion, to estimate project-specific emissions from the combustion of natural gas.

Further, because Unit #2 is also subject to the requirements of MCA 75-2-215, the Department developed a HAP emission inventory for Unit #2 using those emission factors contained in FIRE (the EPA emission factor repository) under SCC 5-02-005-05, pathological incineration. In accordance with the requirements of MCA 75-2-215, estimated HAP emissions from Unit #2 will be used to demonstrate project compliance with negligible risk to human health and the environment. The Department considered only those HAPs for which an emission factor was available and that have been analyzed for other permitted similar sources. A detailed analysis and the results of the demonstration are contained in Section V and VI of the permit analysis.

Criteria Pollutants Emissions Units #1 and #2							
Source	**PM**	**PM_{10}**	**NOx**	**VOC**	**CO**	**SOx**	**Lead**
Unit #2	0.77	0.77	0.58	0.49	0.48	0.36	0.01
Unit #2 Natural Gas Fuel Combustion	0.05	0.05	0.64	0.04	0.54	0.00	0.00
Total Criteria Pollutant Potential Emissions	0.82	0.82	1.22	0.53	1.02	0.36	0.01

Units #1 and #2: Hazardous Air Pollutant Emissions	
HAP	**TPY**
Bromoform	4.76E-06
Carbon Tetrachloride	9.43E-06
Chloroform	8.95E-06
1,2-Dichloropropane	2.17E-04
Ethyl Benzene	2.64E-04
Naphthalene	1.91E-03
Tetrachloroethylene	6.62E-06
1,1,2,2-Tetrachloroethane	1.81E-05
Toluene	7.59E-04
Vinylidine Chloride	1.17E-05
Xylene	3.61E-04
Total HAP Potential Emissions	**3.57E-03**

CRITERIA POLLUTANT EMISSION CALCULATIONS

Unit #2

Maximum Rated Design Capacity: 75 lb/hr
Operating Hours: 8760 hr/yr
Conversion: 75 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 328.5 ton/yr

PM Emissions
Emission Factor: 4.67 lb/ton (AP-42 Table 2.3-2, 07/93)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 4.67lb/ton * 0.0005 ton/lb = 0.77 ton/yr

PM_{10} Emissions:
Emission Factor: 4.67 lb/ton (AP-42 Table 2.3-2, 07/93)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 4.67 lb/ton * 0.0005 ton/lb = 0.77 ton/yr

NO_X Emissions:
Emission Factor: 3.56 lb/ton (AP-42 Table 2.3-1, 07/93)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 3.56 lb/ton * 0.0005 ton/lb = 0.58 ton/yr

VOC Emissions:
Emission Factor: 3.00 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 3 lb/ton * 0.0005 ton/lb = 0.49 ton/yr

CO Emissions:
Emission Factor: 2.95 lb/ton (AP-42 Table 2.3-1, 07/93)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 2.95 lb/ton * 0.0005 ton/lb = 0.48 ton/yr

SO_X Emissions:
Emission Factor: 2.17 lb/ton (AP-42 Table 2.3-1, 07/93)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 2.17 lb/ton * 0.0005 ton/lb = 0.36 ton/yr

Lead Emissions:
Emission Factor: 0.07 lb/ton (AP-42 Table 2.3-2, 07/93)
Fuel Consumption: 328.5 tons/year (Maximum Rated Design)
Calculations: 328.5 tons/year * 0.07 lb/ton * 0.0005 ton/lb = 0.01 ton/yr

Natural Gas Fuel Combustion: Units #2

Heat Input Value: 0.0016 MMscf/hr (Maximum Capacity - Company Information)
Hours of Operation: 8760 hr/yr
PM Emissions

All PM emissions assumed to be PM_{10} emissions (AP-42, Table 1.4-2, 07/98)

PM_{10} Emissions:
Emission Factor: 7.6 lb/MMscf (AP42, Table 1.4-2, 07/98)

Calculations: 7.6 lb/MMscf * 0.0016 MMscf/hr = 0.012 lb/hr
0.012 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.05 ton/yr

NO_X Emissions:
Emission Factor: 100 lb/MMscf (AP42, Table 1.4-2, 07/98)

Calculations: 100 lb/MMscf * 0.0016 MMscf/hr = 0.160 lb/hr
0.160 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.70 ton/yr

VOC Emissions:
Emission Factor: 5.5 lb/MMscf (AP42, Table 1.4-2, 07/98)

Calculations: 5.5 lb/MMscf * 0.0016 MMscf/hr = 0.009 lb/hr

0.009 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

CO Emissions:

Emission Factor: 84 lb/MMscf (AP42, Table 1.4-2, 07/98)

Calculations: 84 lb/MMscf * 0.0016 MMscf/hr = 0.134 lb/hr

0.134 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.59 ton/yr

SO_X Emissions:

Emission Factor: 0.6 lb/MMscf (AP42, Table 1.4-2, 07/98)

Calculations: 0.6 lb/MMscf * 0.0016 MMscf/hr = 0.001 lb/hr

0.00096 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.00 ton/yr

Unit #2: Hazardous Air Pollutant Emissions

Bromoform

Emission Factor: 2.90E-05 lb/ton (AFSSCC 5-02-005-05)

Calculations: 2.90 E-05 lb/ton * 328.5 ton/yr * 0.0005 ton/lb = 4.76E-06 ton/yr

Carbon Tetrachloride

Emission Factor: 5.74E-05 lb/ton (AFSSCC 5-02-005-05)

Calculations: 5.74E-05 lb/ton * 328.5 ton/yr * 0.0005 ton/lb = 9.43E-06 ton/yr

Chloroform

Emission Factor: 5.45E-05 lb/ton (AFSSCC 5-02-005-05)

Calculations: 5.45E-05 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 8.95E-06 ton/yr

1,2-Dichloropropane

Emission Factor: 1.32E-03 lb/ton (AFSSCC 5-02-005-05)

Calculations: 1.32E-03 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 2.17E-04 ton/yr

Ethyl Benzene

Emission Factor: 1.61E-03 lb/ton (AFSSCC 5-02-005-05)

Calculations: 1.61E-03 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 2.64E-04 ton/yr

Naphthalene

Emission Factor: 1.16E-02 lb/ton (AFSSCC 5-02-005-05)

Calculations: 1.16E-02 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 1.91E-03 ton/yr

Tetrachloroethylene

Emission Factor: 4.03E-05 lb/ton (AFSSCC 5-02-005-05)

Calculations: 4.03E-05 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 6.62E-06 ton/yr

1,1,2,2-Tetrachloroethane
Emission Factor: 1.10E-04 lb/ton (AFSSCC 5-02-005-05)
Calculations: 1.10E-04 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 1.81E-05 ton/yr

Toluene
Emission Factor: 4.62E-03 lb/ton (AFSSCC 5-02-005-05)
Calculations: 4.62E-03 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 7.59E-04 ton/yr

Vinylidene Chloride
Emission Factor: 7.10E-05 lb/ton (AFSSCC 5-02-005-05)
Calculations: 7.10E-05 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 1.17E-05 ton/yr

Xylene
Emission Factor: 2.20E-03 lb/ton (AFSSCC 5-02-005-05)
Calculations: 2.20E-03 lb/ ton * 328.5 ton/yr * 0.0005 ton/lb = 3.61E-04 ton/yr

V. Existing Air Quality

YVV is located on Section 5, Township 1 South, Range 26 East, Yellowstone County, Montana. The physical address is 30 Moore Lane, Billings, Montana. This Billings area is considered non-attainment for carbon monoxide (CO) and sulfur dioxide (SO_2). The current permit action will have no effect on existing air quality because it is considered an administrative amendment and will not add any additional emissions.

VI. Air Quality Impacts

The Department determined that no ambient air impact analysis was necessary for this permitting action because this action does not result in a change in emissions and is considered administrative. Therefore, the Department believes this action will not cause or contribute to a violation of any ambient air quality standard.

VII. Ambient Airy Impact Analysis

Based on the information provided and the conditions established in MAQP #4195-01, the Department determined that there will be no impacts from this permitting action because the permitting action is considered an administrative amendment.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

IX. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an environmental assessment is not required.

Analysis Prepared By: John P. Proulx
Date: February 20, 2019